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## BEFORE THE POSTAL REGULATORY COMMISSION WASHINGTON, D.C. 20268-0001

Mail Processing Network
Rationalization Service Changes, 2012

Docket No. N2012-1

ON BEHALF OF THE

PUBLIC REPRESENTATIVE [ERRATA]

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#### I. INTRODUCTION

## A. Autobiographical Sketch

My name is Kevin Neels. I am a Principal at The Brattle Group, an economics consulting firm headquartered in Cambridge, Massachusetts. I lead that company's transportation consulting practice. I have more than 30 years of experience providing economic analysis, research, and consulting services to a wide range of clients. These clients have included government transportation agencies, as well as firms in the postal, railroad, airline, and auto manufacturing industries. My work has frequently addressed issues relating to regulatory policy and the proper relationship between the public and private sectors. I have previously submitted testimony before a number of different regulatory bodies. I have also testified in international arbitrations, and in state and federal courts.

Prior to joining The Brattle Group, I served with a number of other organizations, including Charles River Associates (now known as CRA International); the Rand Corporation; the Urban Institute; Peat, Marwick & Mitchell (now known as KPMG); and the consulting firm of Putnam, Hayes & Bartlett. I am a member of the American Economic Association and Chairman of the Committee on Freight Transportation Economics and Regulation of the Transportation Research Board, an arm of the National Academy of Sciences. I hold a Ph.D. from Cornell University. A copy of my resume is attached as Appendix A.

On a number of prior occasions, I have been asked to offer expert testimony in legal and regulatory proceedings, including testimony relating to the regulation of postal rates. In particular, I have testified for UPS before this Commission. In Docket No. R97-1, I submitted testimony on a statistical analysis of mail processing cost variability presented by Dr. Michael Bradley on behalf of the United States Postal Service. In Docket No. R2000-1, I submitted testimony criticizing an updated version of that same study. In that same proceeding I also submitted testimony on transportation costs. In R2006-1, I again submitted testimony on mail processing costs.

## B. Summary of Testimony

I have been asked to comment upon the relationship between service quality standards and rates in a rate cap regime, and to discuss how regulated firms and regulatory bodies make trade-offs between these variables. I have been asked in particular to comment upon the regulatory implications of the U.S. Postal Service's request for authorization to relax delivery standards for First-Class Mail and Periodicals mail, which is the subject of this proceeding.

The following section provides a brief overview of the Postal Service's proposal and the rationale supporting it. I then provide a brief description of the regulatory scheme under which the Postal Service currently operates. This description is followed by a discussion of the economic rationale for price cap regulation. I then discuss the relationship between price and quantity, and the particular concerns about quantity that arise under price cap regulation. I conclude with a discussion of the regulatory implications of the service standard changes that have been requested by the Postal Service

## II. OVERVIEW OF THE POSTAL SERVICE'S PROPOSAL

As all parties to this proceeding know, the Postal Service is currently operating at a loss that is expected, unless something is done, to increase in the future. These losses have been attributed to declines in mail volume and revenue, and in particular in the volume of and revenue from First-Class Mail. These volume losses are thought be the result of systematic changes in the economy, including the growing reliance by businesses and households on electronic communication. The Postal Service has responded to these financial challenges with a variety of cost reduction programs. These efforts have included reductions in capacity at Airport Mail Centers, removal of mail processing from Processing and Distribution Centers/Facilities and other network configuration changes.<sup>1</sup>

As mail volume has continued to fall, and the Postal Service has continued to search for ways to reduce its costs. As part of "a fundamental realignment of the mail processing network" the Postal Service has proposed to reduce costs through a substantial reduction in the number of Processing and Distribution Centers/Facilities.<sup>2</sup> Under this proposal the number of such centers would fall from 251 to roughly 200.<sup>3</sup> At the same time, the Postal Service proposes to make adjustments to the inter-plant transportation network, resulting in additional cost savings through better capacity utilization.

In proposing these changes the Postal Service has argued that the size of the network and the number of processing facilities it operates is driven by the requirements for handling of First-Class Mail at its current standards of service. "Historically, to a

<sup>&</sup>lt;sup>1</sup> See USPS-T-1, section II.A.

<sup>&</sup>lt;sup>2</sup> USPS-T-1 page 9, line 20.

<sup>&</sup>lt;sup>3</sup> USPS-T-1 page 10, line 6.

great extent, postal mail processing and transportation network infrastructure and mail processing technology have been configured and designed to accommodate pursuit of the service standards applicable to First-Class Mail, with considerable emphasis on meeting overnight service standards." The Postal Service has argued that a relaxation of services standards for First-Class Mail will allow it to consolidate mail processing into a smaller set of facilities, and in the process, permit it to shed significant costs, expanding utilization of the machinery used for Delivery Point Sequencing (by expanding the time window in which such operations are conducted) reducing transportation costs through a reduction in inter-plant truck movements. Proposed service standard changes include eliminating overnight delivery of First-Class Mail for any origin-destination combination currently served at that standard and increasing delivery times for many of the other origin-destination combinations that currently receive First-Class Mail service at a two day standard. All told, well over half of First-Class Mail volume will have its delivery standard relaxed by one day.<sup>5</sup>

#### III. THE CURRENT POSTAL REGULATORY SYSTEM

The regulatory regime under which the U.S. Postal Service currently operates was established by Postal Accountability and Enhancement Act (Act),<sup>6</sup> which was enacted in December of 2006. That Act divided the products offered by the Postal

<sup>&</sup>lt;sup>4</sup> USPS-T-1 page 4, line 4. In the original, the text quoted here has a footnote explaining that facilities for processing packages, Express Mail, Priority Mail, and International mail are not configured for serving First-Class mail.

<sup>&</sup>lt;sup>5</sup> GAO-12-470, "Mail Processing Network Exceeds What Is Needed for Declining Mail Volume," April 2012, Table2, indicates that approximately 59% of mail will have the standard changed (42% goes from 1-day to 2-day, and 49-32=17% goes from 2-day to 3-day; values are rounded in the source).

<sup>&</sup>lt;sup>6</sup> Pub. L. no. 109-435.

Service into two categories -- Market Dominant, and Competitive – and established for each regulatory provisions appropriate to its specific circumstances. In passing this Act Congress sought to streamline the regulatory process and provide the Postal Service with greater pricing flexibility while at the same time assuring that long-standing policy objectives relating to the pricing of postal products continued to be met.

### A. Competitive Services

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In the case of competitive services (priority mail; expedited mail; bulk parcel post; bulk international mail; and mailgrams);<sup>7</sup> the primary policy concern has traditionally been to assure that these services are not being subsidized by revenues generated from users of market dominant services, and that they do not distort the competitive market in which they are sold. This concern is reflected in the provisions of the 2006 Act setting forth the regulatory goals for competitive services. The Act states that regulations for these services should:

- (1) prohibit the subsidization of competitive products by market-dominant products;
  - (2) ensure that each competitive product covers its costs attributable; and
- (3) ensure that all competitive products collectively cover what the Commission determines to be an appropriate share of the institutional costs of the Postal Service.<sup>8</sup>

In effect, the regulatory treatment of competitive service prices establishes a floor, below which those prices are not supposed to fall. However, as long as each service generates enough revenue to cover its attributable costs, and the entire set of services collectively generates enough revenue over and above attributable costs to

<sup>&</sup>lt;sup>7</sup> Pub L. no. 109-435, §§. 202, 3631.

<sup>&</sup>lt;sup>8</sup> Pub L. no. 109-435, §§. 202, 3633.

meet its institutional cost coverage target, the Postal Service enjoys great price setting freedom for these services.

#### B. Market Dominant Services

Although the policy concerns surrounding market dominant services (First-Class Mail letters and sealed parcels, First-Class Mail cards, periodicals, standard mail, single-piece parcel post, media mail, bound printed matter, library mail, special services, and single-piece international mail)<sup>9</sup> are more complex, a major concern has always been to protect the interests of users of these services. This concern is reflected in the first regulatory goal for competitive services set forth above. That these services are referred to as "market dominant" reflects the fact that the Postal Service enjoys a statutory monopoly over the provision of these services. The traditional regulatory treatment of these services reflects the monopoly status of the Postal Service with respect to these services, the market power that status confers, and the importance of protecting users of these services from the exercise of market power.

The provisions of the 2006 Act reflect continuing concern over these issues. While a primary purpose of the Act was to streamline regulation and provide the Postal Service with increased pricing flexibility, the Act nonetheless directed the Postal Regulatory Commission to establish a regulatory system for market dominant services that would:

"include an annual limitation on the percentage changes in rates to be set by the Postal Regulatory Commission that will be equal to the change in the Consumer Price Index for All Urban Consumers unadjusted for seasonal variation over the most recent

<sup>&</sup>lt;sup>9</sup> Pub. L. no. 109-435, §§ 201, 3621.

available 12-month period preceding the date the Postal Service files notice of its intention to increase rates."<sup>10</sup>

In other words, the 2006 Act established a price cap regime for market dominant services. In implementing this provision of the 2006 Act the Postal Regulatory Commission has established regulations that constrain the amount by which a volume-weighted average of individual service rates is permitted to increase over time.<sup>11</sup>

This regulatory mechanism is designed to help in a balanced way to achieve the somewhat disparate objectives of the 2006 Act. It limits the rate increases to which users of market dominant services are subject, and in that way achieves the goal of limiting the exercise of market power by the Postal Service. At the same time, this mechanism provides the Postal Service with a degree of flexibility in setting rates for market dominant services. Prices for individual products can be raised by more than the amount of the overall price cap if there are offsetting reductions in the rates of increase for other products. Finally, in focusing on readily verifiable rates and volumes, this regulatory mechanism is simpler and easier to implement than the former cost based regulatory system.

The 2006 Act also included provisions calling for the establishment of modern service standards for market dominant products. <sup>12</sup> In establishing this requirement, the Act stated that its objectives were:

• To enhance the value of postal services to both senders and recipients.

<sup>&</sup>lt;sup>10</sup> Pub. L. no. 109-435, §§ 201, 3622.

<sup>&</sup>lt;sup>11</sup>Docket No. MC2007-1, Order No. 43—Order Establishing Ratemaking Regulations For Market Dominant And Competitive Products Part 3010 —Regulation Of Rates For Market Dominant Products, Subpart B—Rules for Rate Adjustments for Rates of General Applicability, § 3010.24

<sup>&</sup>lt;sup>12</sup> Pub. L. no. 109-435, §§ 301, 3691.

- To preserve regular and effective access to postal services in all communities, including those in rural areas or where post offices are not self-sustaining.
- To reasonably assure Postal Service customers delivery reliability, speed and frequency consistent with reasonable rates and best business practices.
- To provide a system of objective external performance measurements for each market-dominant product as a basis for measurement of Postal Service performance.<sup>13</sup>

As I explain below, in establishing this regulatory framework the 2006 Act and associated regulations established by the Postal Regulatory Commission has followed well-established regulatory procedures that have been implemented and over time refined in a number of other network industries.

#### IV. THE ECONOMIC RATIONALE FOR PRICE CAP REGULATION

Regulators have long wrestled with the problem of how to protect the customers of monopoly service providers. Assuring this protection generally required the regulator to place constraints of the prices the monopoly provider was allowed to charge. Early approaches to this problem (including the approach applied by the predecessor regulatory agency, the Postal Rate Commission, prior to the passage of the 2006 Act) set prices based on the cost of providing the service. Prices were at levels that covered the cost of providing the service, and that allowed the regulated firm to earn an appropriate rate of return on invested capital. This form of regulation, which has been widely used in the public utility area, is called cost of service or rate of return

<sup>&</sup>lt;sup>13</sup> *Id*.

regulation.<sup>14</sup> This method also tends to be retrospective, as it looks at what has transpired and makes adjustments to compensate for excessive or insufficient profits.

Over time regulators and economists have come to recognize two important incentive problems underlying such a regulatory structure. First, under this form of regulation the regulated firm has limited incentives to lower its costs. As long as the firm possesses an adequate degree of market power any increases in cost will, under this form of regulation, simply be passed along to its customers. Any increase in productivity it might achieve would result in a downward adjustment to prices, such that its rate of return would remain unchanged. Second, the regulated firm also has an incentive not just to fail to make the most productive use of capital, but furthermore to structure itself to invest capital inefficiently. This "Averch-Johnson effect" recognizes that, if a firm is being compensated in proportion to its capital, it has an incentive to increase its use of capital (relative to other inputs to production, such as labor) beyond an efficient level, in order to increase the magnitude of the profit it is allowed to earn.<sup>15</sup>

The initial regulatory response to these perverse incentives involved efforts by regulators to monitor and evaluate the spending and investment decisions of the regulated entity. The general idea was for the regulator to separate "prudent" from "imprudent" expenditures, and to base regulated prices on the former only. In practice, however, such distinctions can be difficult to draw. The process of attempting to draw them can be burdensome and intrusive.

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<sup>&</sup>lt;sup>14</sup> For an overview of the history of rate of return regulation see David M. Newbery, "Rate-Of-Return Regulation Versus Price Regulation For Public Utilities," Department of Economics, Cambridge, United Kingdom, April, 1997.

<sup>&</sup>lt;sup>15</sup>Averch, H. and Johnson, L.L. 1962. Behavior of the firm under regulatory constraint. American Economic Review, 52: 1053-1069.

Price cap regulation evolved as an alternative method of constraining the prices charged by monopoly service providers. Price cap regulation establishes a ceiling on the prices that the regulated firm can charge (which in practice is often based on the price currently charged) and a formula for how that ceiling will change over some specified period of time. This formula will often be in the form of "RPI minus x," where "RPI" stands for the rate of price inflation, as measured by some general price index (such as the Consumer Price Index), and "x" is some small positive constant that is intended to capture (or encourage) productivity improvements. In cases where the regulated firm sells multiple products, the ceiling will often constrain the rate at which a specified weighted average of prices can increase, as is the case with the price cap currently applied to market dominant services provided by the Postal Service. At the end of the specified period the regulator will, after an appropriate review, reset the price cap and the formula for adjusting it over time.

The regulated firm's incentives under price cap regulation differ from those under rate of return regulation. Most importantly, under a price cap regime the firm retains the financial benefit from any reductions in costs, or improvements in efficiency or capital utilization, at least until the cap is reset. This feature is thought to provide powerful incentives for efficiency improvement. During the periods between rate cap reset reviews, price cap regulation reduces or even eliminates the need for intrusive examinations of the regulated firm's cost structure. Finally, within the constraints set by the price cap the regulated firm is allowed flexibility in adjusting prices to changing circumstances.

## V. THE RELATIONSHIP BETWEEN PRICE AND QUALITY

In a pure commodity market the nominal price associated with a commodity provides all of the information a potential buyer needs to know in order to make an informed purchasing decision or for a regulator to assess the welfare impacts of a proposed change in price. For example, throughout the United State electric utilities offer essentially the same electric service. There are raw materials markets in which exactly the same good – aluminum, copper or tungsten, for example – are being sold. When we think about differences in price we tend to think in these terms. We will say that vendor A changes a higher price than vendor B if the per unit price for vendor A is higher than the per unit price changed by vendor B. Implicit in this assessment is an assumption that the units being sold by vendor A and vendor B are identical.

Of course, the assumption that the offerings of all vendors are precisely identical is frequently violated. Even within markets labeled as "commodity markets" there are frequently significant differences between the different categories of products that are offered. For example, within the crude oil market there are a wide variety of different crudes that vary in terms of their "sweetness" (*i.e.* sulfur content), "lightness" (*i.e.* relative concentration of hydrocarbons suitable for gasoline production) and other factors. "light sweet" crudes command higher prices than "heavy sour" crudes.

To take a more extreme example, consider the auto market. According to US News current prices for the Honda Fit currently range from \$16,114 to \$20,473. Prices for the Porsche 911 Carrera currently range from \$77,800 to \$245,000. The average car buyer would readily concede that both are cars, and that both will take you where you want to go. The average car buyer would also concede that the Carrera is more expensive that the Fit. But no one thinks they are precisely the same product. In buying

the Carrera, a purchaser is the buyer of a whole set of features and functionality that are not present on the Fit.

Furthermore, features can change over time. The lowest-cost laptop computer available at a national online retailer, like Dell, for example, has sold at a price of around \$400-500 for many years. However the performance of that computer has improved substantially over time, as CPUs have become faster, hard disks have grown in capacity, and so forth. The nominal price has not changed, but what one gets for that price has. In such cases, it is misleading to say that the price has stayed constant. For other products the level of quality has fallen over time. For example, some or many people believe that a non-premium tomato bought in a grocery store has lost its flavor compared to tomatoes of decades ago. Even if the nominal price is roughly the same as years ago, people who value the flavor in a tomato now feel they get less for their money.

These examples drive home a point that is readily understood by consumers. In many if not most markets a range of goods or services are sold that differ both in price and quality. We are accustomed to trading off price and quality when we make purchasing decisions. When we compare prices we readily account for quality differences between alternative offerings.

The Bureau of Labor Statistics, which is charged with measuring changes in price levels over time, has long recognized the importance of taking quality differences

into account.<sup>16</sup> How to account for quality changes remains an important topic for price index research.<sup>17</sup>

To make meaningful comparisons of price levels over time one must account for differences over time in the quality of what is being sold. For this purpose it is convenient to think in terms of a quality-adjusted price. A quality-adjusted price can rise or fall depending on two factors. One is simply the price itself, while the other is the change in quality. Thus, if a product's actual, or "nominal," price remains unchanged, but the quality of the product improves, then the purchaser is getting more for the money, and the quality-adjusted price falls. Similarly, when the quality of a product gets worse, such as a longer delivery time standard, the quality-adjusted price rises. The price is the same, but the buyer gets less for the money. A reduction in quality is an increase in the quality-adjusted price.

### VI. PRICE CAPS AND QUALITY CONCERNS

Although the economics can be complex, it has long been recognized that the strong incentives for cost reduction associated with price cap regulation can also incentivize the regulated firm to reduce the quality of the service it offers. Quality is costly to provide. Indeed, the whole premise of the Postal Service's proposal is that it must incur a significant amount of additional cost in order to meet current First–Class Mail delivery standards. Under a price cap regime the regulated entity appropriates the benefits of any cost reductions it is able to achieve. Hence, there has been long standing regulatory concern over the potential adverse consequences of price cap

<sup>&</sup>lt;sup>16</sup> See, for example Mary F. Kokoski, "Quality Adjustment of Price Indexes," Monthly Labor Review, December 1993.

<sup>&</sup>lt;sup>17</sup> See Katharine G. Abraham, "Toward a Cost of Living Index: Progress and Prospects," Journal of Economic Perspectives, Vol. 17, No. 1, Winter 2003, pages 52-53.

regulation for quality of service. This incentive has been recognized in the literature for some time.<sup>18</sup>

User welfare is reduced when quality declines, just as when prices rise. At any given level of consumption customer welfare is enhanced if prices are reduced, or if quality of service is enhanced. While the tradeoffs between price and quality can be complex and difficult to measure with precision, the directional effects are clear. If quality is reduced the effect on consumer welfare is the same as if price is increased. There has thus been concern that reductions in service quality could provide a regulated firm with a way to circumvent the intended effects of the price cap.

Regulators have addressed these concerns in two ways. One approach (which is reflected in the 2006 Act) is to implement a set of minimum quality standards. This approach represents the flip side of price cap regulation. Price cap regulation sets a ceiling on prices; service standards set a floor on service quality. A second and more sophisticated approach allows the regulated entity to vary service quality within a framework in which there are financial penalties and rewards for (respectively) decreases and increases in the actual quality achieved. In principle, if the financial rewards and penalties imposed by the regulator mirror accurately the incremental value placed on service quality by customers, an appropriately designed incentive scheme can induce the regulated firm to make appropriate trade-offs between the incremental

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<sup>&</sup>lt;sup>18</sup> See, for example, Lawrence J. White, "Quality Variation When Prices are Regulated," Bell Journal of Economics and Management Science 3:2 425-436, Autumn 1972, A. Michael Spence "Monopoly, Quality, and Regulation," Bell Journal of Economics 6:2 417-429, Autumn 1975, Elyan Sheshinski, "Price, Quality and Quantity Regulation in Monopoly Situations," Economica 43:170 127-137, May 1976, Claudia Kreihn, "Quality Regulation without Regulating Quality," discussion paper, Ifo Institute fur Wirtschaftsforschung an der Universitat Munchen (Institute for Economic Research, University of Munich), June 2004, or David E. M. Sappington, "Regulating Service Quality, A Survey," Journal of Regulatory Economics 27:2 127-154, 2005.

- costs (which it presumably knows) and revenues (which presumably reflect accurately
- 2 customer demands) to arrive at an optimal quality level. Successful implementation of
- this second approach requires, of course a great deal of information about customer
- 4 preferences that could be difficult to obtain.<sup>19</sup>

### VII. SUMMARY AND CONCLUSIONS

The current price cap regime established by the 2006 Act was put in place to protect users of market dominant services. It was intended to limit the prices charged for market dominant products and assure that the users of these products would not bear a disproportionate share of the Postal Service's costs. The 2006 Act also called for the establishment of service standards defining the minimum quality of service that the Postal Service would be expected to provide.

The establishment of minimum service standards is a well-recognized tool reducing the incentives that a regulated firm might otherwise have under a price cap regime to reduce service quality. Quality is costly to provide. Under a price cap regime the regulated entity appropriates the benefits of any cost reductions it is able to achieve. Hence, there has been long standing regulatory concern over the potential adverse consequences of price cap regulation for quality of service.

As I have noted above, customer welfare is reduced when quality declines, just as when prices rise. The directional effects are clear. If quality is reduced the effect on consumer welfare is the same as if price is increased.

<sup>&</sup>lt;sup>19</sup> David E. M. Sappington and Dennis L. Weisman, "Price Cap Regulation: What Have We Learned from Twenty-Five Years of Experience in the Telecommunications Industry?" working paper, September 2010, pages 10-11.

The inevitable conclusion that must be drawn from these observations is that the reduction in service standards that the Postal Service has requested is, in effect, a relaxation of the price cap that has been established for market dominant services.

I appreciate the predicament in which the Postal Service now finds itself. It faces significant financial difficulties. Reducing service standards for First-Class Mail and shedding the related costs may well be the best option now open to the Postal Service. The Postal Service has argued that the effects of the proposed changes on mailers and mail recipients will be modest. However, we should recognize this option for what it really is. The Postal Service is asking for relief from regulations intended to protect users of market dominant services. And while service standard reductions may be far more palatable to First-Class Mailers and mail recipients than rate increases, the fact remains that in making this request for relief the Postal Service is essentially balancing it budget on the backs of customers of market dominant services, specifically users of First-Class Mail and Periodicals.